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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,237	01/18/2002	Lyle Smith	LISP-01054US0	7958

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EXAMINER

CRANE, SARA W

ART UNIT PAPER NUMBER

2811

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,237

Applicant(s)

SMITH ET AL.

Examiner

Sara W. Crane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 35 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-34 and 37-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant has elected the claims of Group II (claims 10-33 and 37-43), with claim 34 generic, in the Paper of 19 August 2003.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-34 and 37-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the independent claims 10, 17, 27, and 37, uses the term "pin," which is not clear. In claim 10, for example, what is a pin? Usually the word would refer to, for example, the metal within a via hole, which connects a conductive path on one layer of metallization to a conductive path on another layer of metallization. Applicant's specification, however, seems to regard a "pin" as something else. For example, layer 604 in figure 6 is called a "pin," and this layer appears to be a part of the metallization layer itself. Is a "pin" part of the metallization layer? If so, then does this word mean that that part of the metallization layer has some particular characteristic? Is a "pin" distinguishable from an "unbroken conductive path," which is another term used in the claims? Layer 604 in figure 6 is certainly "unbroken" along its extent. Does the term "pin" mean any piece of conductor at all, including for example a conductor within a via

hole? Is any part of the specification discussion intended as a definition of the term?

Page 11, lines 14-16, for example, refers to "pins" as part of a connection to an input or output of an underlying function block. Must a "pin" be part of a direct connection to an input or output of an underlying function block? Without knowing what is meant by

"pin," the examiner really cannot understand what structures are encompassed by the claim language.

Also, "unbroken conductive path" is not clear. How would one determine whether a conductive path is unbroken? Certainly, any conductive path would be unbroken along at least part of its length. Does this phrase mean that the conductive path does not include breaks at via hole connections? (If so, then how could such a path be formed on "two conducting layers," as in claim 11?)

The term "uncoupled" is also unclear, as in the last line of claim 10 which states that the unbroken conductive path is "uncoupled" to the respective pin. If the unbroken conductive path and the pin are both part of the same circuit, then they must be "coupled" somehow, at least through intervening circuit connections. (And the specification does seem to regard all of the structures discussed as part of the same integrated circuit.) So how would one determine whether two parts of a circuit are "uncoupled"? Does this mean that no metal connects the two parts? (Does "uncoupled" mean that any connection between the two parts is non-ohmic?) Does the term "uncoupled" mean merely that there is no capacitive or parasitic coupling involved? Again, the metes and bounds of the claim cannot be determined. Also, claim 13, which depends on claim 10, requires a specific coupling for the pins. Does this mean that the

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uncoupled parts, as required by claim 10, are to be coupled by a subsequent wiring layer? Or is the lack of coupling required by claim 10 maintained after the customized wiring layer of claim 13 is formed?

Also, in claim 10 for example, the "pin" is "in communication with" a respective input or output. What is meant by "in communication with"? Certainly, any part of a circuit is "in communication with" any of the inputs or outputs of that circuit, because all parts of a circuit are connected together somehow, for example by power wiring if not by signal flow. Does the claim require any particular type of "communication"? (Does this mean a metal connection? An ohmic connection?)

In claims 11 and 12, as noted above, it is not clear how an "unbroken" conductive path can be formed on two layers.

Claims 17-26, 27-33, and 37-43, contain the same claim terms discussed above, and would be unclear for the same reasons.

With respect to claim 34, "multiple independent clock domains" is not clear. What is meant by "independent"? If the clock conductors are "coupled," as required by lines 5-6 of the claim, then how can they possibly be "independent"? Does this mean simply that the circuit has multiple clock signals? (Such clocks are usually carefully designed so that the clock signals have a precise timing relationship with one another, and would hardly be regarded as independent.) Or can the "independent clock domains" all be connected to the same clock signal? If so, how would one determine whether two clock "domains" are "independent"? Also, claim 36, which depends from

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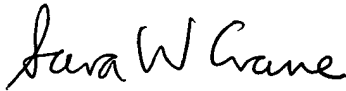
claim 34, refers to "the four clock conductors." Does "plurality" in claim 34 somehow mean "four"?

The prior art of Hirose et al. made of record is cited because it shows many of the features encompassed by the claim language, depending of course on what, exactly, the claim language means. Figure 14B of the reference, for example, shows a plurality of tracks, each including conductive layers that are "unbroken" and "uncoupled."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (703) 308-4894.

The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 308-0956.


Sara W. Crane
Primary Examiner
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